

ABSTRACT

A method of optimizing the formation of nickel silicide on regions of a MOSFET structure, has been developed. The method features formation of nickel silicide using an anneal procedure performed at a temperature below which nickel silicide instability and agglomeration occurs. A thin titanium interlayer is first formed on the MOSFET structure prior to nickel deposition, allowing an anneal procedure, performed after nickel deposition, to successfully form nickel silicide at a temperature of about 400° C. To obtain the desired conformality and thickness uniformity the thin titanium interlayer is formed via an atomic layer deposition procedure.